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(56) Documents Cited

**US 5213256 A**

(58) Field of Search

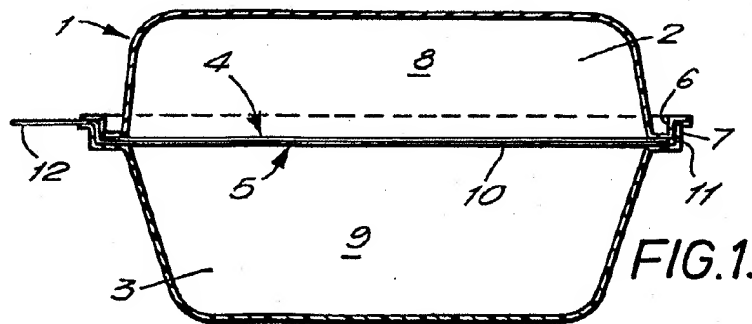
**UK CL (Edition N ) B8D DSC1**

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**Online:WPI**

(54) **Compartmented container with removable or rupturable partition**

(57) A rigid container assembly comprises an opposed pair of compartments 8, 9, an internal partitioning membrane 10 closing and separating the compartments, and a manually operable tab 12 connected to the membrane and extending externally of the container, the tab being pulled to rupture or displace the membrane and allow communication between the compartments without opening the assembly. The two compartments may be defined by two thermo-formed plastics trays which are hinged together, the membrane being sealed around the mouth of one tray by adhesive or heat sealing. The membrane may be folded back on itself (figure 2) to form the pull tab 12, or a cord or tape may be fixed to the membrane. The compartments may contain foods to be mixed together, e.g. yogart and fruit or lettuce and dressing, or chemicals.



**FIG.1.**

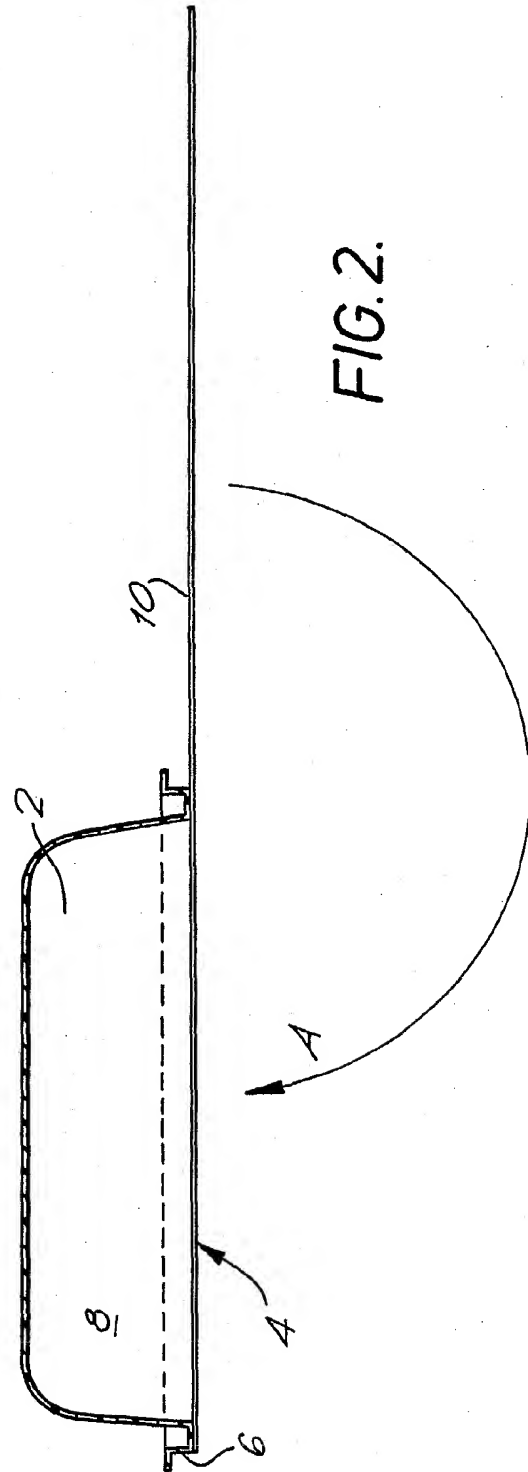
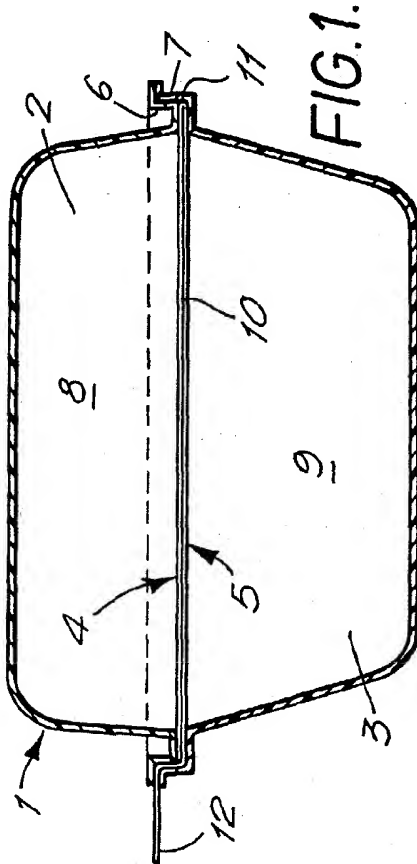
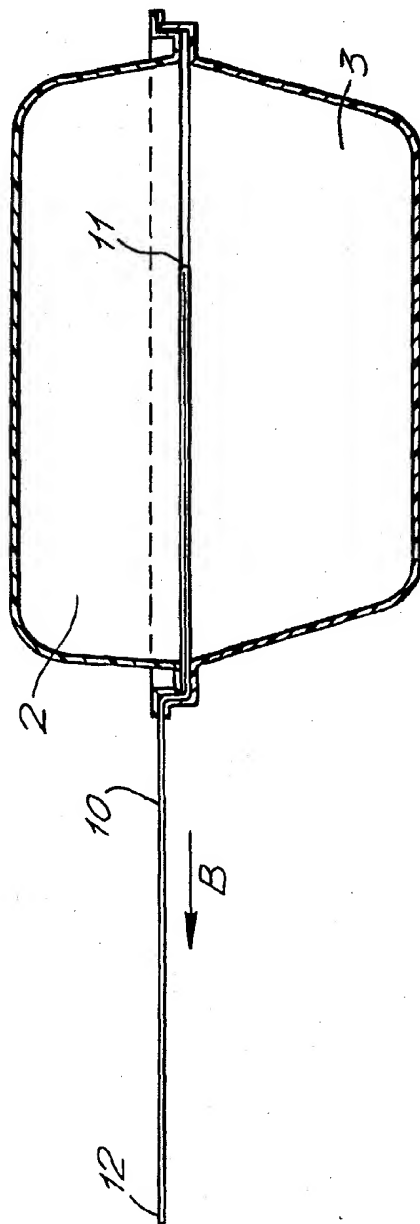


FIG. 3.



TITLE:     PACKAGING

DESCRIPTION

The invention relates to packaging and more particularly to multi-compartment packaging.

It is known to provide multi-compartment packages for use in containing ingredients which cannot or should not be mixed or contacted together before use for one reason or another, e.g, to prolong shelf life or to prevent a chemical reaction. Thus it is known to provide retail food packages having two compartments, one of which is intended to contain yoghurt and the other fruit and which are intended to be mixed together by the consumer after opening the package. It is also known to provide a flexible package in the form of a two compartment sachet, the compartments of the sachet being separated by a rupturable membrane, whereby a user can manipulate the sachet to rupture the membrane and thus mix together the contents of the two compartments before the sachet is opened.

It is an object of the invention to provide a substantially rigid package with two separate compartments such that the contents of the compartments can be mixed before the package is opened. Obviously with such a package it is not possible to manipulate the package to rupture the membrane as is the case with a flexible package.

According to the invention a two compartment rigid package comprises an internal membrane separating the compartments and manually operable means connected to the

membrane and extending externally of the package for rupturing or displacing the membrane to allow communication between the compartments.

The package may be thermoformed from sheet plastics material such as PVC and the membrane may also be of sheet plastics or plastics film.

It is envisaged that for most circumstances where the contents of one of the compartments is solid and the contents of the other compartment is liquid or semi-solid, it will be sufficient that only that compartment containing the liquid or semi-solid contents will be sealed with a membrane. With this arrangement, the compartment containing the solid component may be closed simply by being clipped to the compartment containing the liquid or semi-solid, e.g. with the aid of peripheral interengaging flanges on the pair of compartments, in a manner well known per se. It might however be possible or desirable, where both compartments contain a liquid or semi-solid material, for both compartments to be sealed with its own membrane, in which case they will both require means for rupturing or displacing the membranes as aforesaid to allow mixing of the contents of the two compartments.

It will be appreciated that the two compartments need not be equal in size and that indeed more than two compartments may be employed in the package. Thus the tray forming one part of the package may have more than one cavity.

The manually operable means for rupturing or

displacing the membrane(s) preferably comprises an integral extension of the sheet forming the membrane, which extension is folded to overlies the membrane so that its free end extends from one side of the package to form a tab. Thus when the free end is grasped and pulled, it causes the seal between the membrane and the associated compartment of the package to give way so that the membrane is peeled back from the compartment.

Alternatively the manually operable means may comprise a cord or tape fixed to the membrane to rupture and/or peel back the membrane.

The invention is diagrammatically illustrated by way of example in the accompanying drawings in which:-

Figure 1 is a side view of a multi-compartment package;

Figure 2 is a side view of part of the package of Figure 1 and showing a step in the assembly of the package, and

Figure 3 shows how the package of Figure 1 is manipulated in use to combine the contents of the compartments.

Figure 1 of the drawings shows a typical thermoformed sheet plastics two compartment package 1 consisting of an opposed pair of tray-like members 2,3 forming respective upper and lower superposed compartments 8,9, the tray members being joined together at their respective mouths 4,5 e.g. by interengaging flanges 6,7 respectively, and the compartments 8,9 of the respective trays being maintained

separate by a sheet of plastics lidding film 10 seal d around the mouth of the tray 2 e.g. with an adhesive or by heat sealing or both to form a membrane closing the compartment 8.

Figure 2 illustrates how the sheet of lidding film 10 in the arrangement of Figure 1 is folded over on itself as indicated by arrow A to form a double layer of film between the compartments with the fold disposed at 11 and so that the free end 12 thereof forms a tab extending from the side of the package opposite to that of the fold 11.

Figure 3 shows how the tab 12 can be pulled away from the package 1 as indicated by arrow B to peel back the membrane 10 to allow communication between the two compartments of the package.

Thus the contents of the two compartments can be maintained separate until the user decides that they should be mixed, e.g. immediately prior to use. After the tab has been operated to retract or rupture the membrane and mix the contents of the two compartments, the user can then open the package. It will be appreciated that the upper tray may if desired be hinged to the lower tray in conventional manner, or alternatively the two trays may be separately formed.

It is thought that the invention may find particular application in connection with retail food sales to prolong the shelf life of snack foods where the shelf life is significantly reduced by mixing the foodstuffs together prior to use. Examples are salads and their associated

dressings and soft fruits and dairy cream. It is also thought that the invention will find application for example where chemicals must only be mixed immediately prior to use, and where it is desirable to mix two or more components before the package is opened.



CLAIMS

1. A rigid package comprising means defining an opposed pair of compartments, an internal membrane closing and separating the compartments and manually operable means connected to the membrane and extending externally of the package for rupturing or displacing the membrane to allow communication between the compartments.
2. A package according to claim 1, comprising a member having a cavity forming a compartment.
3. A package according to claim 2, comprising first and second members each having a cavity forming a compartment.
4. A package according to claim 3, wherein the first and second members have co-operating means on their peripheral edges whereby the members can engage together to form an enclosure consisting of the cavities.
5. A package according to any one of claims 2 to 4, wherein the or each member is a tray.
6. A package according to any one of claims 2 to 5, wherein a plurality of cavities is provided in the or each member.
7. A package according to any one of claims 2 to 6, wherein the or each member is thermoformed from sheet plastics material.
8. A package according to any preceding claim, wherein the membrane is of plastics sheet or film.
9. A package according to any one of claims 3 to 8, wherein the membrane is sealed to the periphery of one of the said members to close the cavity in the member.

10. A package according to any preceding claim, wherein the manually operable means for rupturing or displacing the membrane comprises an extension which is folded to overlies the membrane and the free end of which extends from the package opposite to the fold to form a tab which can be grasped to peel back and/or rupture the membrane.

11. A package according to claim 10, wherein the extension is integral with the membrane.

12. A package according to any one of claims 1 to 10, wherein the manually operable means comprises a cord or tape fixed to the membrane.

13. A package substantially as hereinbefore described with reference to, and as illustrated in the accompanying drawings.

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**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

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**GB 9500916.3**

**Relevant Technical Fields**

(i) UK Cl (Ed.N)      B8D (DSC1)

(ii) Int Cl (Ed.6)      B65D 25/08

**Search Examiner**  
**LINDA HARDEN**

**Date of completion of Search**  
**17 FEBRUARY 1995**

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ONLINE: WPI

**Documents considered relevant following a search in respect of Claims :-**  
**1-13**

**Categories of documents**

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|---|---|
| <b>X:</b> Document indicating lack of novelty or of inventive step.   | <b>P:</b> Document published on or after the declared priority date but before the filing date of the present application.        |
| <b>Y:</b> Document indicating lack of inventive step if combined with one or more other documents of the same category. | <b>E:</b> Patent document published on or after, but with priority date earlier than, the filing date of the present application. |
| <b>A:</b> Document indicating technological background and/or state of the art.   | <b>&amp;:</b> Member of the same patent family; corresponding document.   |

Category	Identity of document and relevant passages	Relevant to claim(s)
X	US 5213256 (CYR) see Figures 4 and 5	1-9,11

**Databases:** The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).